



APPROVAL OF MANUFACTURER CERTIFICATE

Certificate No:
AMMM000036Y
Revision No:
1

This is to certify:

That

Keon Sae High Pressure Co., Ltd.
119-29 Soju-ro Yangsan-si, Gyeongsangnam-do,
Republic of Korea

is an approved manufacturer of
Steel Forgings

in accordance with

DNV rules for classification – Ships
DNV class programme – DNV-CP-0247 Steel forgings

and the following particulars:

Application area	Forgings for boilers, pressure vessels and piping systems,
Steel type	Stainless steel forgings Carbon and carbon-manganese, Austenitic stainless, Ferritic-austenitic (duplex) stainless
Forging method	Closed die forging
Max. weight	See page 2
Max. diameter / section	See page 2
Heat treatment condition	See page 2
Additional approval conditions	See page 2

Manufacturer(s) approved by this certificate is/are accepted to deliver according to DNV GL, DNV and GL rules.
Materials to be applied to DNV classed object shall fulfill the material requirements in the applicable DNV class rules.

Issued at **Hamburg** on **2025-01-13**

This Certificate is valid until **2027-08-20**.

DNV local unit: **Busan, CMC Korea**

Approval Engineer: **Andrzej Otrebski**



for **DNV**

This document has been digitally signed and will
therefore not have handwritten signature
Christian Wildhagen

LEGAL DISCLAIMER: Unless otherwise stated in the applicable contract with the holder of this document, or following from mandatory law, the liability of DNV AS, its parent companies and their subsidiaries as well as their officers, directors and employees ("DNV") arising from or in connection with the services rendered for the purpose of the issuance of this document or reliance thereon, whether in contract or in tort (including negligence), shall be limited to direct losses and under any circumstance be limited to 300,000 USD.

Particulars of the approval

Forgings for boilers, pressure vessels and piping systems

Steel type	Grade ³⁾	Forging method ¹⁾	Max. weight [kg]	Max. thickness [mm]	Heat treatment condition ²⁾
C and C-Mn	NV F450H, NV F490H	CD	5	75	N

Stainless steel forgings

Steel type	Grade ³⁾⁴⁾	Forging method ¹⁾	Max. weight [kg]	Max. thickness [mm]	Heat treatment condition ²⁾
Austenitic	CrNi	CD	5	75	SHT
	CrNiMo	CD	5	75	SHT
Ferritic-austenitic	22 Cr Duplex	CD	5	75	SHT
	25 Cr Duplex	CD	5	75	SHT

Remarks:

- ¹⁾ CD: Closed die forging
- ²⁾ N: Normalised
SHT: Solution Heat Treated (Solution Annealing)
- ³⁾ Incl. equivalent grades in acc. to other standards
- ⁴⁾ Stainless steel forgings shall be in accordance with recognized standards, **e.g.** EN 10222, ASTM A473/A965/A182/A961 and JIS G 3214, provided that supplementary requirements contained herein are also met. Recognition of other standards is subject to submission to the Society for evaluation.

Special conditions:

- Forging workshop located in #80-112 Golden root-ro Juchon-myeon Gimhae-si, Gyeongsangnam-do, Republic of Korea
- Heat treatment to be conducted by DNV approved heat treatment workshop